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# Machine Translation



# **Meets Specifications**

Greetings Student,

This was a good implementation and I congratulate you for passing all rubric items with this submission. It was delightful reviewing your work as it was well-thought-out. I encourage you to keep up the good work. Way to go!

Also, please take help of the resources, I shared, it will help you get better in the field.

For any queries, you can ask on Knowledge Portal as well [https://knowledge.udacity.com/]

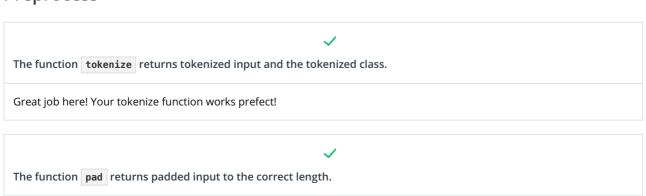
Another cool tutorial I found: https://medium.com/@ageitgey/machine-learning-is-fun-part-5-language-translation-withdeeplearning-and-the-magic-of-sequences-2ace0acca0aa

Stay Safe

## **Submitted Files**



## **Preprocess**



Your pad function is correctly implemented. Well done!

#### Models

/

The function simple\_model builds a basic RNN model.

Correct implementation - to improve performance you could try increasing the number of units (try 512 units) - for this and other models.

Also decrease batch size to 256-512 - there are disadvantages to using very large batch sizes as you should know (for this and other models). You might need to increase the epochs, though.

Please checkout: https://medium.com/mini-distill/effect-of-batch-size-on-training-dynamics-21c14f7a716e

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The function embed\_model builds a RNN model using word embedding.

You have also successfully implemented embed\_model.



The Embedding RNN is trained on the dataset. A prediction using the model on the training dataset is printed in the notebook.

Good prediction, great validation accuracy.

**/** 

The function **bd model** builds a bidirectional RNN model.

It is normal that the accuracy decreases compared to the previous model.

In the next models, we will see the power of these layers when combined together.

The Bidirectional RNN is trained on the dataset. A prediction using the model on the training dataset is printed in the notebook.

Good prediction, great validation accuracy.



The function model\_final builds and trains a model that incorporates embedding, and bidirectional RNN using the dataset.

Your model\_final is correctly implemented.

Few things you may change in your model to improve it!

- Number of units,
- Increase the number of epochs.

Please notice that I would not perform all these changes at the same time. I would try one by one, noticing which effect has in our model accuracy

4/27/2021 Udacity Reviews

## **Prediction**

The final model correctly predicts both sentences.

Model predicts both the sentences correctly

#### Sample 1:

il a vu un vieux camion jaune <PAD> <PAD> <PAD> <PAD> <PAD> <PAD> <PAD> <PAD> <PAD> < PAD> <PAD> <PAD> <PAD> <PAD>

Il a vu un vieux camion jaune

Sample 2:

new jersey est parfois calme pendant l' automne et il est neigeux en avril <PAD> <PAD

> <PAD> <PAD> <PAD> <PAD> <PAD>

new jersey est parfois calme pendant l' automne et il est neigeux en avril <PAD> <PAD > <PAD> <PAD> <PAD> <PAD> <PAD>

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